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IOP Policy Challenge: Bus Rapid Transit Proposal – The “Chica-GoGo”

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Overview: In the past few years, Bus Rapid Transit (BRT) has taken off in U.S. cities as a popular way to create a cost-effective public transit system that reduces vehicle congestion, builds zero-emission transportation and is equitable. BRT is a transit service that mimics light rail, but relies on high speed buses and is significantly less expensive to construct than rail services. BRT is a more efficient, reliable, and faster service than a typical bus system. Key features of BRT are dedicated lanes, traffic signal priority, off-board fare collection, camera enforcement, level boarding stations, and larger buses. These characteristics make BRT faster than an average bus service because it can avoid traffic and it does not require passengers to pay onboard.

The Problem: Chicago has the second worst congestion in the country in 2019 with commuters spending increased amounts of time in traffic each year (145 hours in 2019), costing drivers \$2,146 per year (Inrix, 2023). These car trips are inefficient, with 51% of drivers going fewer than three miles. But often drivers have few choices, and non-car drivers, often lower-income residents, have even fewer. Chicago’s transit system was built around the notion that the Loop was the city center. Over the past several decades, however, thriving communities and businesses have developed beyond Downtown Chicago (Transit Future, 2023). Chicago transit has not caught up to urban sprawl; our current hub-and-spoke system consists almost entirely of Loop-converging rail lines, with cross-town trips not requiring downtown passage being limited to slow bus lines (MPC, 2023). Thus, in 2019, around 50% of individuals commuting to work in Chicago drive, while around 30% of individuals commuting to work in Chicago use public transit (CMAP, 2019), a number that should be higher for a major metropolitan city.

The pandemic shutdown caused new issues. The Chicago Transit Authority (CTA) has been stretched thin with a lack of staff and funding and no reliability for riders. As a result, Chicagoans are losing trust in existing transit options (Bloom, 2022). The CTA’s is working to address these pandemic induced issues – their Meeting the Moment plan aims to implement aggressive recruitment, hiring, and retention initiatives, and find ways to optimize schedules for more consistent service (Chicago Transit Authority, 2023). But these reforms do not address the root issues for Chicago riders – a lack of connectivity, reliability, affordability, and sustainability.

Equity: Over 438,000 Chicago residents live in transit deserts (TransitFuture, 2014). With limited access to high quality, affordable transit options, these Chicagoans are bound to expensive car usage on congested roads—a \$2,500 yearly cost (Stebbins, 2021) that many cannot afford in a city with a 17.1% poverty rate (United States Census Bureau, 2023). Limited mobility in these areas does not just affect those that live in them—390,000 Chicago jobs are located in transit deserts (TransitFuture, 2014). When residents and commuters lack efficient and affordable transit options, their ability to access medical care, educational centers, food stores as well as green spaces and entertainment is additionally hindered (MPC). These obstacles disproportionately affect Black and brown Chicagoans; for example, nearly 100,000 more jobs are accessible in 45 minutes by public transit for white residents than for Black and Latinx residents (Transit Center Equity Dashboard, 2023).

Sustainability and Net-Zero Emissions: Passenger vehicle emissions contribute 80% of on-road transportation emissions in Chicago (CMAP, 2019). In addition, diesel buses used in the CTA system contribute harmful emissions that are extremely dangerous for children and individuals with pre-existing respiratory conditions (ELPC, 2019). In conjunction with Mayor Lightfoot’s plan to electrify buses by 2030, investing in electric BRT buses will improve air quality and reduce the harmful health impacts that diesel emissions have on public health (ELPC, 2019).

Policy: *Goal:* Our plan, the Chica-GO-GO, outlines how the city of Chicago can build an electric BRT system that increases: **connectivity** (by providing a direct north-south connection that does not pass through Downtown Chicago, links neighborhoods within the South and West Side, connects communities of color who don’t have the same accessibility by car and other transport, and connects individuals to the overall greater Chicago transit system, including the ‘L,’ Metra, and Pace); **reliability** (by helping create more transportation choices in Chicago that are efficient, providing frequent, safe service at fast speeds comparable to light rail); **affordability** (by decreasing household transit costs with affordable pricing, as well as incentivizing local economic development by providing new reliable transit in previously underserved neighborhoods—for every \$1 invested in BRT, \$3 in sales are creating for nearby businesses (Transit Chicago, 2013)); and **sustainability** (by reducing GHG emissions and improving air quality, especially for the most at-risk communities).

Policy Details: We are proposing two zero-emission BRT corridors in the city of Chicago that will total 24.7 miles. These two corridors will be located on Ashland Avenue starting from Irving Park Road all the way to 95th St (16.1 miles) and 95th St starting from S. Cicero Ave. Oak Lawn to S. Jeffrey Blvd (8.6 miles). Transit signal priority will be required at intersections to allow BRT to mimic light-rail speeds. For BRT to be successful two dedicated lanes (one for each direction) are essential in addition to the other factors of city streets like traffic, parking, bike lanes and sidewalks. This means a right-of-way must be at least 86 feet wide and these proposed corridors account for this. (MPC, 2011) In addition, most left turns will be removed to keep buses moving. There will be around forty stations that are ADA compliant and divided among the 24.7 miles, creating stops approximately every half a mile. Stations will require payment before entering the bus. During on-peak periods, buses will run every 7 to 10 minutes, while during off-peak periods buses will run every 12 to 15 minutes at speeds between 15 to

20 miles per hour. In contrast, typical Chicago buses run an average of 8 miles per hour. There will be approximately 60 electric buses that will be required. In addition, stations and buses will have security cameras to ensure safety. We anticipate that fares for every BRT ride will be around the same as a typical CTA fare.

Cost: The Chica-GoGo will span 24.7 miles. 40 stations will be constructed, each costing with one falling every 12 blocks. Using Indianapolis' IndyGo system as a model, we plan on purchasing 60 electric BRT buses, each costing 1.9M and totaling \$114M. We used the following two models to calculate price: **MODEL 1** (Preliminary estimates of the 2013 Chicago Ashland plan predict each mile of electric BRT will cost \$10 million (Chicago Gov, 2012). In the Indianapolis plan, the figure doubled in 2019, adjusting for inflation and COVID-19 costs. Thus, we estimate that each mile of the ChicaGO-GO plan will cost \$20 million. Total cost: $\$494M + \$114M = \$608M$) and **MODEL 2:** Ashland plan in 2014 cost \$116.9M miles, building of 14 stations, a dedicated lane, and 50 specialized vehicles. This totals to \$21.6M per mile. OUR PLAN: $\$21.6M \text{ per mile} \times 24.7 \text{ miles} = \$533.52M$. BRT usually costs between \$20-\$50M. \$21.6M is a modest estimate and could likely increase to aprox. \$30M. $\$533.52M + \$19M = \$552.5M$. Both estimates are relatively cheap transportation projects and can account for pricing adjustments. Comparative: Red Line extension plan costs \$3.6 billion (Chicago Sun Times).

Paying for it: With the passage of the Infrastructure Bill in 2021, unprecedented levels of federal funding for public transit projects has now increased to \$39 billion, making it a pivotal moment for Chicago to make BRT happen. For projects totaling \$400M+, \$150M+ is available in federal funds through the FTA CIG program (USDOT). For FY2023, \$70 million is expected to be available for Congestion Mitigation and Air Quality Improvement Program (CMAQ) projects (which would include the Go-Go plan). In future years, these funds will likely be similar or increase, providing another federal funding source distributed by local governments. The Chicago **Transit Tax Increment Financing** (TIF) was recently authorized to help finance the Red Line extension. It has generated \$622M in local funding for North Side improvements in the CTA's Red and Purple Lines (30% of the project total) (Chicago Gov). We anticipate that a Transit TIF can be used to generate similar funds for the Go-Go. After consulting Deputy Commissioner Tim Jeffries on the Go-Go plan, it is feasible that 50% of the project financing will come from federally available funds (specifically the FTA CIG program) and the remaining requisite funds will be provided by CMAQ and TIF funding.

Stakeholders: *Federal stakeholders* (BRT is supported and subsidized by the US Government (USG), which recently provided \$187 million in grants for BRT projects across the US. Federal funding is available through FTA's Capital Investment Grants (CIG) Small Starts Program. In previous Chicago BRT proposals, the FTA and DHED have been strongly in favor, and this plan aligns with the Biden-Harris administration's priorities to invest in green energy; *Local government stakeholders* (CDOT Commissioner Gia Biagi, appointed by Lori Lightfoot who has been a supporter of similar transit reform projects, is tasked with developing transit opportunities prioritizing equity, mobility, and the environment. We anticipate support for the BRT proposal); *CTA Chicago Transit Board* (Anticipated support for this BRT proposal. In 2013, they approved a similar plan for BRT in Chicago); *Chicagoans* (The public transit-using workforce will be extremely supportive of the new proposal); *Small Business Owners* (These individuals will be supportive as comparable BRT lines have stimulated local investment and increased retail spending significantly); *Car-driving residents* (These individuals will be skeptical of the plan. Drivers have concerns about the conversion of two mixed-use lanes to bus-only routes. However, most drivers will not be majorly impacted as 90% of parking and 2 mixed-use lanes will be retained).

Obstacles and Implementation: In 2013, the CTA and Chicago Department of Transportation released the Ashland BRT Project, a plan to build a BRT corridor running 16 miles from Irving Park Road to 95th Street. Tim Jefferies, the Deputy Commissioner of the City of Chicago's Financial Incentives Division, explained to us that the 2014 plan failed only after its project manager quit. While political pressures surrounding car-centered backlash ultimately squashed the initiative (Greenfield, 2017), the loss of this key personnel is what Jefferies believes was the true impetus of failure. With the careful hiring of more stable leadership, a mistake like this could be easily avoided. As for funding, our plan circumvents limited local funds by relying on untapped, federal dollars.

Before the actual construction of BRT, the city of Chicago will have to conduct an environmental impact statement of the project. In addition, the BRT project must be approved for federal, state and local funding. These two processes will take between a year or two. The construction of our two BRT corridors will happen in two phases over the course of five to eight years.

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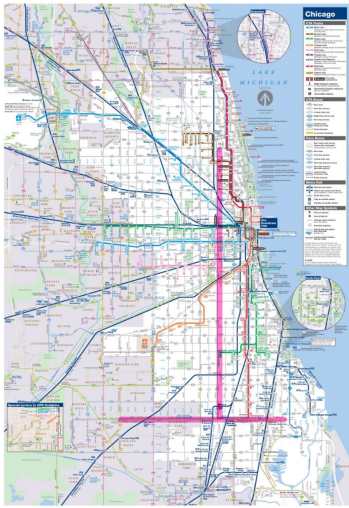
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[link](#)

Appendix



Regional Transit Authority, 2023 (edited, the Pink lines are the proposed BRT Corridors on Ashland Avenue and 95th Street.)